Frymaster

Model numbers BIELA14 & BIGLA30
LOV – Low Oil Volume

Daily maintenance tasks

FR 3 D1 Cleaning fryer

FR 3 D2 Maintenance Filter

Weekly maintenance tasks

FR 3 W1 Clean Behind Fryer

Bi-weekly maintenance task

FR 3 B1 Calibrate fryer

Monthly maintenance task

FR 3 M1 Calibrate fryer recovery time

FR 3 M2 Clean Oil Sensor

Quarterly maintenance tasks

FR 3 Q1 Deep Clean, Jib System

FR 3 Q2 Deep Clean, bulk oil system

FR 3 Q3 High Limit Check

FR 3 Q4 O-Ring inspection

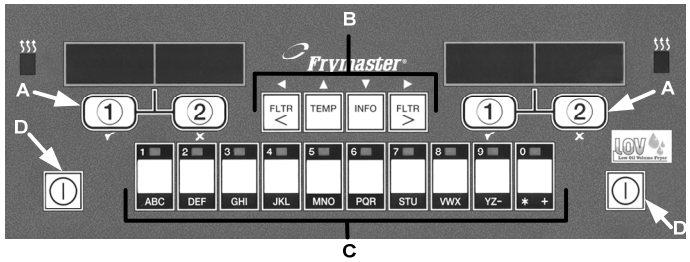
Annual maintenance tasks

FR 3 Al-T Servicer inspection (Electric fryers only)

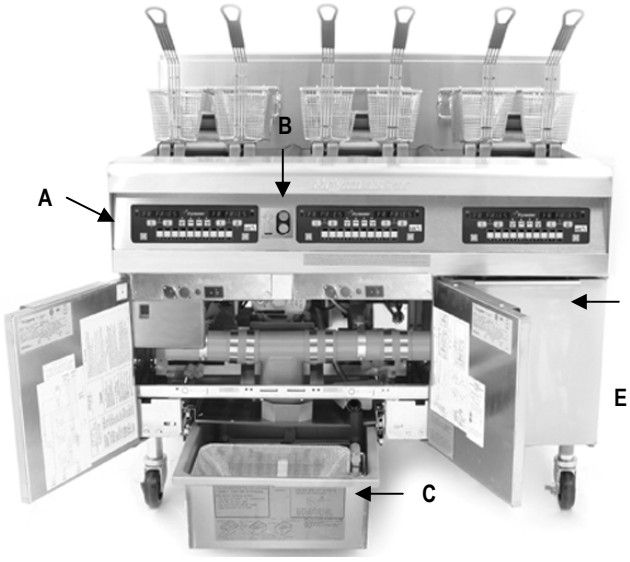
FR3 A2-T Service inspection (Gas fryers only)

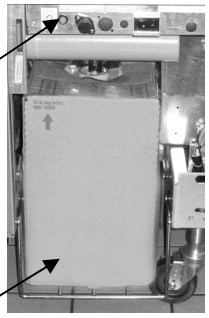
Computer model M3000

A. Cook cycle buttons, **B**. Filter, Temp, Info, Programming and Navigation buttons, **C**. Product Buttons, **D**. ON/OFF



Model BIELA14





A. M3000 computer, **B**. LOV indicator lights, **C**. Filter pan, **D**. JIB oil reservoir, **E**. JIB reset button

△ Hazards
These icons alert you to a possible risk of personal injury.

Equipment alerts
Look for this icon to find information about how to avoid damaging the equipment while doing a procedure.

✪ Tips
Look for this icon to find helpful tips about how to do a procedure.

MAR 2013

8 1 9 6 5 5 1

©McDonald's Corporation · Planned Maintenance Manual · Revised January 2013

Daily Cleaning of Fryers | Daily | FR 3 D1

Why	Removed caramelized oil from fryer and clean element hub.	
Time required	5 minutes to prepare	15 minutes to complete (5 minutes per pot)
Time of day	Low-volume periods	For 24-hour restaurants: overnight or during low-volume periods
Hazard icons	Hot Oil, Hot Surfaces, Sharp Objects/Surfaces, Electricity, Chemicals	

Tools and supplies

Ecolab Hi-Temp Pad Holder and Pad

Paper towel

Neoprene Filtering Gloves

Apron, heat-resistant

KAY® QSR Fryer Cleanser

Face shield

Fryer's Friend

KAY® QSR Heavy Duty Degreaser

KAY® SolidSense All Purpose Super Concentrate (APSC)

Bucket with Sanitizer Soaked Towels

Procedure

1 **Turn fryers off.**
Turn all fryer power switches to the off position.

2 **Put on protective gear.**
Use all McDonald's approved safety equipment, including heat-resistance apron, face shield and neoprene gloves.

This procedure should be done for only one vat at a time.

Hot Oil
Hot oil can cause severe burns

3 **Clean front and topside area of heating element hub (electric only).**
Wearing heat resistant gloves, place covers on frypots ensuring they are square with the frypot.

Hot Oil Hot Surfaces

Use a small amount of QSR Fryer Cleanser on a Hi-Temp pad (electric only).
Use Hi-Temp pad to clean around the element hub and surrounding housing area.

Once area has been cleaned, wipe off excess with a sanitizer soaked towel**. Ensure the towel is not dripping** with solution around hot oil.

Remove frypot cover and remove basket rack using a fryer's friend, set aside. Lift elements using fryer's friend.

Replace frypot covers and wipe excess oil from the elements with paper towel.

4 Clean underside area of heating element hub (electric only).

Use a small amount of QSR Fryer Cleanser on a Hi-Temp pad.
Use Hi-Temp pad to clean the underside of the element hub and surrounding housing area.

Once area has been cleaned wipe off excess with a sanitizer soaked towel**. Ensure the towel is not dripping** with solution around hot oil.

Remove frypot cover. Using a fryer's friend, lower the elements and replace the basket rack.

5 Wipe down surfaces.

Spray a clean, sanitizer-soaked towel with Heavy Duty Degreaser solution to thoroughly wipe down all surfaces of the fryer to remove grease and soil build-up. Ensure the towel is not dripping with solution around hot oil. Allow surface to air dry.

Hot Surfaces

Hot Oil
Oil in fryer may be very hot.

Equipment Alert
When wiping down equipment, always be careful not to drip water into electrical components.

6 Repeat for remaining frypots.

Why	Cleans the vat of crumbs and filters the oil thoroughly to prolong the life of the oil	
Time required	5 minutes to prepare	10 minutes per vat to complete
Time of day		During low volume hours.
Hazard icons	Chemicals, Electricity, Hot Liquids/Steam, Hot Oil, Hot Surfaces, Manual Handling, Moving Parts, Sharp Objects/Surfaces, Slippery Floors	

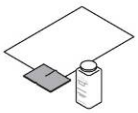
Tools and supplies

Gloves, filtering

Face shield

Apron, heat-resistant

Ecolab Hi-Temp Pad Holder & Pad


McFiltering Kit for built-in filtering system

Ecolab Hi-Temp Detail Brush

KAY® QSR Fryer Cleanser

KAY® SolidSense All Purpose Super Concentrate (APSC)

Procedure

1 **Put on protective gear**
Use all McDonald's approved safety equipment, including heat-resistance apron, face shield and neoprene gloves.

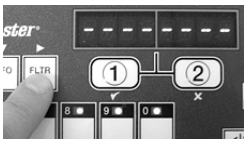
This procedure should be done for only one vat at a time.

Hot Oil
Hot oil can cause severe burns

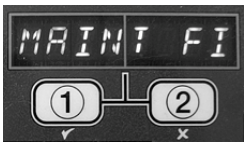
2 **Check filter pan**
Make sure filter drain pan and pan cover are properly in place.

Tip
If the filter pan is not properly in place, INSERT PAN is displayed.

3 **Press and hold FILTER button**
Make sure fryer is on and oil is hot to get the best results from filtering. Press and hold the filter button for three seconds until controller displays FILTER MENU changing to AUTO FILTER.



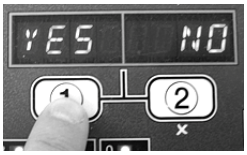
4 **Press INFO button**
Press the INFO button and the controller displays MAINT FILTER.

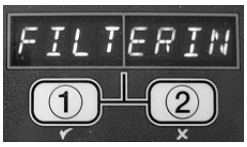


continued ▶

5 Press √ button

Press the √ button and the controller displays MAINT FILTER? alternating with YES NO.
Press the √ button for YES to drain oil. The controller displays FILTERING.
Press the **X** button for NO and the controls return to normal operation.



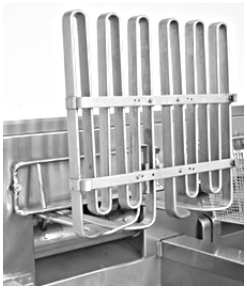


6 Lift elements (electric only)

Once oil has drained, raise the hinged elements.

Hot Surfaces
Use protective gloves when lifting elements or burns could result.

Equipment Alert
Be careful not to damage the probe in center of elements.



7 Scrub inside vat

Use the Hi-Temp Pad Holder, pad, and a small amount of KAY QSR Fryer Cleanser to scrub the walls, corners and bottom of the inside of the vat. Use the Hi-Temp Detail Brush to remove debris build up from elements (electric only), corners of vats and other hard-to-reach areas.

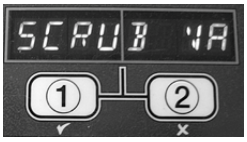
Equipment Alert
Be careful not to damage the probes.

8 Scrub the oil sensor (gas only).

Using the Hi-Temp Pad and fryer cleanser to remove the caramelized oil from the oil sensor. Wipe down with paper towels to remove any residue.

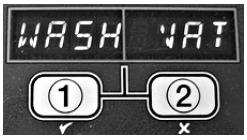
9 Scrub complete

Once the vat is clean and the controller displays SCRUB VAT COMPLETE? alternating with YES; Press the √ button.



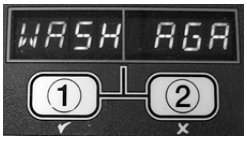
10 Washing

The controller displays WASH VAT? alternating with YES. Lower the elements and press the √ button. The controller displays WASHING while oil is circulated through the vat.



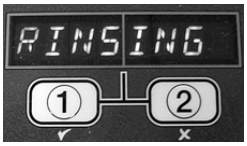
11 Wash again

Once wash cycle is complete, the controller displays WASH AGAIN? alternating with with YES NO. If the vat is clean, press the **X** button. If the vat is not clean, press the √ button and step 10 is repeated.

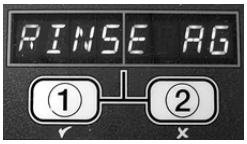


continued ▶

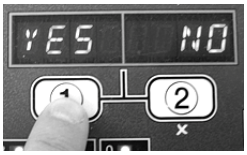
12 Rinsing
The controller displays RINSING while oil is flushed through the vat.

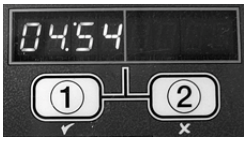


13 Rinse again
Once the rinse is completed, the controller displays RINSE AGAIN?, alternating with YES NO. If the vat is clean press the **X** button. If the vat is not clean, press the √ button and step 12 is repeated.

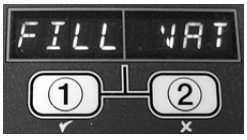


14 Polish
The controller displays POLISH? alternating with YES NO. Press the √ button for YES. The controller displays POLISHING alternating with the countdown timer while the oil is circulated through the filter system for 5 minutes.

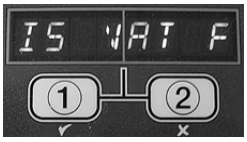




15 Fill vat
Once the polish cycle is complete, the controller displays FILL VAT? alternating with YES. Press the √ button for YES and the controller displays FILLING and the vat fills with oil.

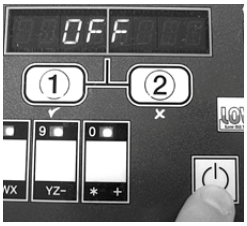


16 Is Vat Full?
Once the vat is full, the controller displays IS VAT FULL? alternating with YES NO. Press the √ button if the vat is full. Press the **X** button to run the pump again if the vat is not full.



17 Turn power on
Press the power button to turn the controller on and return the fryer to normal operation.

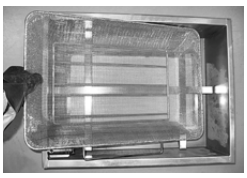
Tip
If the filter pad has not been changed, the controller displays "CHANGE FILTER PAD?"alternating with YES NO reminder. Press the √ button to cancel the message, but it reappears every 4 minutes until the filter pad has been changed.



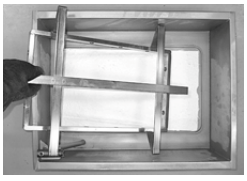
18 Pull-out filter pan
Open the door and pull the filter pan assembly out.

Hot Surfaces
The filter pan may be hot! Use protective gloves, or severe burns may result.

19 Remove crumb basket
Lift the crumb basket from the filter pan. Wipe the oil and crumbs from the crumb basket. Clean the crumb basket with soap and water, and thoroughly rinse with hot water.

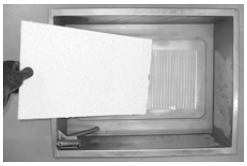


20 Remove filter pad hold down ring
Remove the filter pad hold down ring and clean with hot SolidSense All Purpose Super Concentrate (APSC) solution at the compartment sink. Rinse **thoroughly** with hot water.

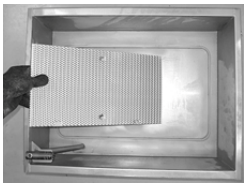


continued ▶

21 Remove filter pad from pan
Pull the filter pad from the pan and discard pad



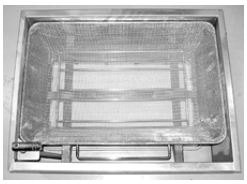
22 Remove bottom inner screen
Pull the bottom inner screen from pan and clean thoroughly with hot SolidSense All Purpose Super Concentrate (APSC) solution at the compartment sink. Rinse **thoroughly** with hot water.



23 Clean filter drain pan
Wipe the oil and crumbs from the filter pan.

24 Reassemble
Reassemble in reverse order, placing the bottom screen into the filter pan first, followed by the filter pad with rough side facing up, hold down ring and the crumb basket.

Tip
Ensure the filter pan, bottom screen, crumb basket, and the hold down ring are thoroughly dry before placing filter pad into pan as water will dissolve the filter pad.



Clean area behind fryers | Weekly | FR 3 W1

Why To ensure high-quality fried products and reduce the possibility of a fire near the fryer

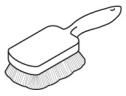
Time required 5 minutes to prepare; 45 minutes to complete

Time of day After close; For 24-hour restaurants: overnight or during low-volume periods

Hazard icons Electricity, Hot Oil, Hot Surfaces, Manual Handling, Sharp Objects/Surfaces, Slippery Floors

Tools and supplies

Brush, hi-lo deck


Brush, pot, nylon

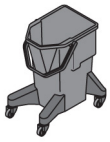
Bucket with KAY® SolidSense™ All Purpose Super Concentrate (APSC)

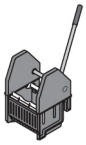
Bucket, clean and sanitized towels

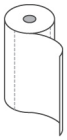
Bucket, soiled towels

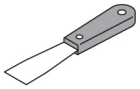
Caution Wet Floor Sign

Mop


Mop bucket


Mop wringer

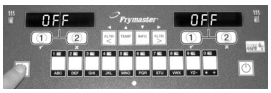

Paper towels


Putty knife

Neoprene Gloves

Procedure

1 Turn fryers off.
Turn all fryer power switches to the off position.

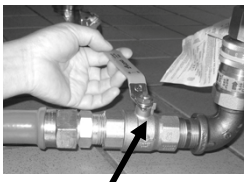


2 Remove and empty grease trough and cup.
Remove the grease trough from the exhaust hood. Remove the grease cup from the hood. The trough and cup are located beneath the hood filters. Pour oil in the trough and cup into the removal cart.

Hot Oil
Oil in trough and cup may be hot. Use gloves.

3 Shut off and disconnect gas.
If the fryer is not a gas fryer, skip this step.

If the fryer is a gas fryer, use the manual gas shut-off valve to shut off the gas supply. The manual gas shut-off valve is located on the supply line before the quick disconnects. Then disconnect the gas line from the fryer via the quick disconnect.



Equipment Alert
Use only the manual shut-off valve to shut off the gas. *Do not use the quick disconnects.*

continued ▶

©McDonald's Corporation · Planned Maintenance Manual · Revised August 2012

4 Prepare fryer for cleaning.

Release the locks on the fryer wheels.

If the fryer has a capping piece, lift the front of the capping piece far enough to let the backsplash clear the filter shelf. Roll the fryer carefully away from the firewall, just until the capping piece clears the filter shelf.

Secure the capping piece, if there is one. Place vat covers on all vats.

Roll the fryer farther away from the firewall, far enough to clean behind the fryer.

Hot Oil
Oil in fryer may be very hot. Roll the fryer slowly to avoid splashing the oil. Use gloves.

5 Disconnect fryer from electricity.

Unplug the fryer's electrical cord from the outlet by pulling on the electrical plug's body. You may need to twist the plug to remove from the outlet.

Electricity

6 Clean fryer filters.

Remove the fryer filters from the exhaust hood. Take the filters to the three-compartment-sink and soak them in KAY® SolidSense™ All Purpose Super Concentrate (APSC).

continued ▶

Chemicals
KAY® SolidSense™ All Purpose Super Concentrate (APSC)

7 Scrape area behind fryer.

Use a putty knife to scrape off all soft grease and hard carbon from the area behind the fryer. Clean the following areas in this order: the parts of the stack you can reach, the back of the exhaust hood, the sides of the exhaust hood, and the fryer filter recess area.

On an electric fryer, next use the putty knife to scrape all soft grease and hard carbon from all sheet metal around the fryer, the standoff piece, and the fryer stand. Skip to step 8 after these areas are cleaned.

On a gas fryer, next use the putty knife to scrape all soft grease and hard carbon from these areas in this order: the flue restrictor, all sheet metal around fryer, the removable gravity blade, the seal angle, the stand-off piece, and the fryer stand.

On a gas fryer, be careful not to drop any soft grease or hard carbon into the fryer flue passage while cleaning.

Equipment Alert
Do not break the fire protection fusible link in the lower area of the stack. Breaking the link will activate the fire extinguishing system.

8 Clean area behind fryer.
Use a nylon pot brush, a hi-lo deck brush, and a bucket of hot KAY® SolidSense™ All Purpose Super Concentrate (APSC) solution to scrub all of the areas you scraped in step 7. Clean the areas in the same order that you scraped them in step 7. Then use the hi-lo deck brush to scrub the floor around the fryer.

Wipe all areas with paper towels until they are clean and dry.

Slippery Floors
The floor may be wet where you have scrubbed it.

9 Ask manager to inspect.
Ask a manager to inspect your work and approve the cleaning. Repeat any cleaning as your manager directs.

10 Wash fryer legs and casters.
Use a nylon pot brush and a bucket of hot KAY® SolidSense™ All Purpose Super Concentrate (APSC) solution to wash the legs and casters of the fryer. Wipe dry with paper towels.

11 Mop floor around fryer.
Use a mop and a bucket of hot KAY® SolidSense™ All Purpose Super Concentrate (APSC) solution to mop the entire floor around the fryer.

Slippery Floors
Floor may be wet from mopping.

12 Allow surfaces to dry.
Allow all fryer, wall, and floor surfaces to air dry.

13 Reconnect fryer to electricity.
Roll the fryer slowly toward the electrical outlet until it is close enough to connect the plug. Plug the fryer into the outlet.

Electricity

Hot Oil
Oil in fryer may be very hot. Roll the fryer slowly to avoid splashing the oil.

14 Prepare fryer for use.
Roll the fryer forward carefully until it is close to the filter shelf. Remove the vat covers from all vats. Lift the front of the capping piece until the backsplash clears the filter shelf, and roll the fryer carefully into its normal position.

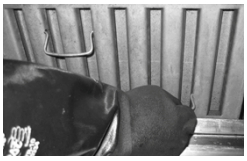
15 Reconnect fryer to gas supply.
If the fryer is an electric fryer, skip this step.

Check both ends of the quick disconnect for grease. Wipe the quick disconnect clean if necessary. Reconnect the gas line coupling.

continued ▶

Equipment Alert
Be sure the gas quick disconnect is fully engaged and interlocked before turning on the gas supply.

16 **Reinstall fryer filters and grease trough.**
Lock wheels into place. Reinstall the fryer filters and the grease trough in the exhaust hood.



17 **Turn on gas supply.**
If the fryer is an electric fryer, skip this step.

Turn the manual gas shut-off valve to the on position. Turn the computer on to verify burners will re-light. Once the burners have been re-lit you can turn the computer off.

continued ▶

18 **Clean area behind other fryers.**
Repeat steps 1 through 17 for all remaining fryers.

Calibrate fryer | Bi-weekly | FR 3 B1

Why	To maintain food safety standards	
Time required	1 minute to prepare	5 minutes to complete, once fryer has reached cooking temperature. Cook temperature should be reached in approximately 45 minutes.
Time of day	At open	For 24-hour restaurants: during low-volume periods
Hazard icons	Hot Oil, Hot Surfaces	

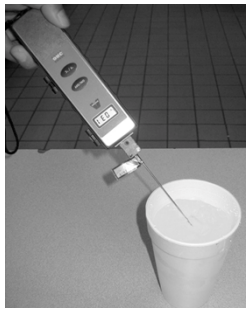
Tools and supplies

Pyrometer with fry vat probe

Neoprene Gloves

Procedure

1 Calibrate pyrometer.
Fill a hot beverage cup with ice and then add cold water from the drink tower up to the top of the ice. You should have 50 percent ice and 50 percent water.

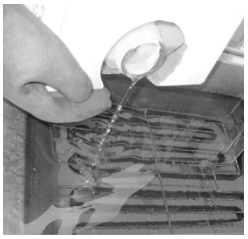


2 Place probe in water
Place the probe in the ice water and stir continuously until the temperature readout stabilizes.

3 Read temperature
The readout should be 32°F (0°C), plus or minus 2°F (1°C). If not, you need to calibrate, repair, or replace the pyrometer. For calibration, follow the calibration, checking, and adjusting procedures supplied by the manufacturer of your pyrometer.

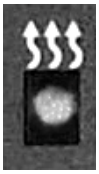
2 Turn on fryer and heat oil.
Press the on/off button to turn the fryer on. Set the fryer for the product to be cooked. Allow the oil in the fryer to reach cooking temperature and then cycle off.

3 Check oil level.
Check the oil level when the oil has reached cooking temperature. If the oil is above the "Oil Level" line, remove oil until the oil is at the line by draining oil into pan or disposal unit. If the oil is below the "Oil Level" line, add oil until the oil reaches the line.



Hot Oil
Oil in the fryer is very hot. Use gloves.

4 Cycle vat.
Allow the vat to cycle on and off three times. The heat light will come on when the fryer is heating.



continued ▶

5 Read oil temperature.
Insert the fry vat probe of the pyrometer into the hot oil to within 1 inch (2.5 cm) of the probe's tip. The tip should be approximately 3 inches (7.6 cm) below the surface of the oil. Allow the temperature reading to stabilize.

6 Display temperature on fryer.
Press the temperature display switch for the vat where you took the pyrometer reading. The display will show the temperature for the vat.

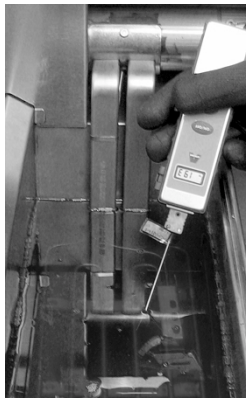
7 Compare temperature readings.
Compare the temperature reading on the pyrometer with the corresponding temperature on the display.

If the two temperatures are less than 5°F (3°C) apart (either plus or minus), you do not need to adjust the temperature setting.

If the two temperatures are more than 5°F (3°C) apart (either plus or minus), call a service technician to report the problem.

8 Repeat for other side of split-vat.
If the vat you tested was a full vat, skip this step and go to step 9.

If the vat you tested was one side of a split-vat, repeat steps 5 through 7 on the other side of the split-vat.



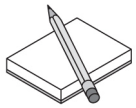
9 End calibration check.
When you have finished steps 5 through 7 for the vat (including both sides of a split-vat), press the on/off button to end the calibration check for the vat.

10 Calibrate remaining fryers.
Repeat steps 1 through 9 for all remaining fryers.

Calibrate fryer recovery time | Monthly | FR 3 M1

Why	To maintain food safety standards for fried products	
Time required	1 minute to prepare	5 minutes to complete,
Time of day	At open	For 24-hour restaurants: in the morning
Hazard icons	Hot Oil Hot Surfaces	

Tools and supplies



Paper and pencil

Procedure

1 Turn fryer on.
Press the on/off button to turn the fryer on. The display will show "----", product name or "LOW TEMP"

2 Check most recent recovery time.
The fryer automatically records the fryer's recovery time each time the vat temperature rises from 250°F (121°C) to 300°F (149°C).

Press the INFO button. The display will show the most recent recovery time in both displays. Write down the recovery time.

3 Compare most recent recovery time to acceptable recovery time.
The acceptable recovery time for electric fryers is less than 1:40 (one minute, forty seconds). The acceptable recovery time for gas fryers is less than 2:25 (two minutes, twenty-five seconds).

If the recovery time you wrote down is less than the fryer's acceptable recovery time, the fryer's performance is acceptable. Skip to step 5.

If the time you wrote down is more than the fryer's acceptable recovery time, the fryer's performance is not acceptable. Go to the next step.

continued ▶

©McDonald's Corporation · Planned Maintenance Manual · Revised Sept. 2011

4 Adjust fryer, if necessary.
If the fryer's recovery time is not acceptable, check the following items on the fryer. If you find any problems, correct them as described.

For electric fryers only, confirm that the large power plug is properly plugged in. Adjust as necessary.

For gas fryers only, check the seal angle, gravity blade, and standoff. Adjust their placement if necessary.

For gas fryers only, check the air flow and combustion air blower. Adjust as necessary.

For gas fryers only, check the condition of the radiant burners.

Refer to troubleshooting guide in Operators manual.

5 Check recovery time again.

If Recovery Time is not achieved in the proper time, call the Frymaster Service Hotline for assistance at 1-800-551-8633.

6 Recalibrate all remaining fryers.
Repeat steps 1 through 5 for all remaining fryers.

Clean Oil Sensor | Monthly | FR 3 M2

Why Removed caramelized oil from oil sensor to prevent heating failure.

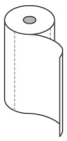
Time required 5 minute to prepare 15 minutes to complete (5 minutes per pot)

Time of day During low volume periods.

Hazard icons Hot Oil, Hot Surfaces, Chemicals, Hot Liquids/Steam

Tools and supplies

Ecolab Hi-Temp Pad Holder and Pad


Paper towel

Neoprene Filtering Gloves

Face shield

Apron, heat-resistant

KAY® QSR Fryer Cleanser

Procedure

1 Prepare for cleaning the Oil Sensor and turn fryer off.
Put on neoprene gloves, a heat-resistant apron, and a face shield. You must wear this equipment throughout this procedure.

This procedure should be done for only one vat at a time.

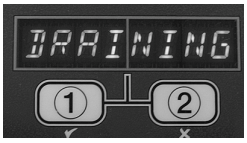
Press the on/off button to turn the fryer off. The display will show "OFF."

2 Press and hold filter button.
Press and hold the filter button for three seconds.

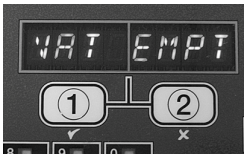
3 Scroll to DRAIN TO PAN.
Press the INFO button two times until DRAIN TO PAN is displayed.

4 Press the YES button.
Press YES to continue.

5 Draining
The oil drains from the vat.



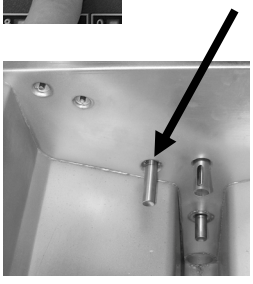
6 Is vat empty?
Once the vat is empty, the controller displays "VAT EMPTY?" alternating with YES.

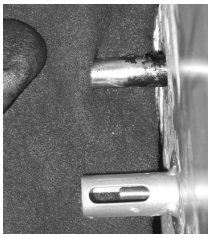


7 Press the YES button.
Press YES to continue.

8 Scrub the oil sensor.
Using the Hi-Temp Pad and fryer cleanser to remove the caramelized oil from the oil sensor. Wipe down with paper towels to remove any residue.

Hot Surfaces, Chemicals, Hot Liquids/Steam, Hot Oil





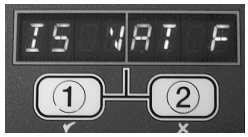
continued ▶

9 **Fill Vat.**
The controller displays "FILL VAT FROM DRAIN PAN? alternating with YES/NO.

10 **Press the YES button.**
Press YES to continue.

11 **Filling**
The oil returns to the vat.
Hot Oil

12 **Vat full?**
The controller displays "IS VAT FULL?" alternating with YES/NO.



13 **Press the YES button.**
Press YES if full. If the vat isn't full, press NO and return to step 11.

14 **Repeat for remaining frypots.**

Deep Clean Mode JIB System | Quarterly | FR 3 Q1

Why Removes caramelized oil from elements (if electric) and frypot.

Time required 5 minutes to prepare; 15 minutes to prepare; 60 per pot to complete

Time of day This task can be performed one pot at a time. You will be able to serve customers with remaining pots. For 24-hour restaurants: This task can be performed one pot at a time. You will be able to serve customers with remaining pots.

Hazard icons Chemicals, Electricity, Hot Liquids/Steam, Hot Oil, Hot Surfaces, Manual Handling, Moving Parts, Sharp Objects/Surfaces, Slippery Floors

Tools and supplies

Apron, heat-resistant

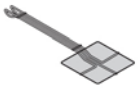
Ecolab Hi-Temp Detail Brush

Bucket, plastic

Bucket, clean and sanitized towels

Bucket, soiled towels

Face shield


Fryer skimmer

Gloves, neoprene

Goofer stick

KAY® QSR Fryer Cleanser

KAY® QSR Heavy Duty Degreaser

Oil removal cart

Paper towels

Ecolab Hi-Temp Pad Holder and Pad

Procedure *The Deep Cleaning follows procedures developed by Kay Chemical. Their instructions are needed in addition to this PM.*

1 Prepare for Deep Clean and turn fryer off.
Put on neoprene gloves, a heat-resistant apron, and a face shield. You must wear this equipment throughout this procedure.

This procedure should be done for only one vat at a time.

Confirm that the fryer filters are in place. Turn at least one exhaust fan on. The fan must stay on for the entire procedure.

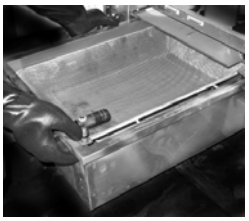
Make sure the basket support rack is in place in the vat.

Press the on/off button to turn the fryer off. The display will show "OFF."

Equipment Alert
Avoid accidentally activating the fire extinguishing system by keeping an exhaust fan on and the fryer filters in place during the entire procedure.

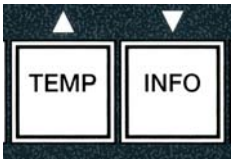
2 Remove filter pan.
Remove the filter pan and remove crumb basket, hold-down ring, filter pad and screen.

Hot Surfaces



3 Position MSDU.
Ensure the MSDU (McDonald's Shortening Disposal Unit or oil removal cart) is in place under the drain.

4 Enter Deep Clean mode.
Press and hold the Temp and Info buttons simultaneously until LEVEL 1 is displayed on the computer changing to ENTER CODE.



Deep Clean Mode JIB System (continued)

5 Enter Code.
Enter 1-2-3-4 with the numbered keys

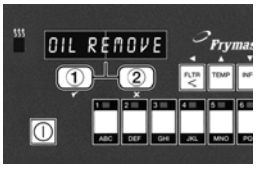
6 Scroll to Deep Clean.
Press the ▼ "Info" button to scroll to DEEP CLEAN MODE.

7 Press checkmark key.
Press the 1 ✔ key under the vat to be cleaned.

8 Confirm Deep Clean.
The computer display alternates between DEEP CLEAN? and YES NO. Press the 1 ✔ key.

9 Confirm Oil is Removed.
Split Pots: Computer displays Deep Clean, alternating with L R. Press the 1 ✔ or 2 ✕ button under the split vat to be cleaned. Computer displays IS OIL REMOVED? alternating with YES NO.

Full Pots: Computer displays IS OIL REMOVED? alternating with YES NO.



10 Confirm Pot Status.
Empty Vat: Press the 1 ✔ key. Computer displays SOLUTION ADDED? alternating with YES.

Oil-Filled Vat: Press the 2 ✕ key. Computer displays IS DISPOSAL UNIT IN PLACE? alternating with YES NO.

11 Drain oil from vat.
Empty Vat: Skip to Step 12.

Be sure the MSDU (McDonald's Shortening Disposal Unit or oil removal cart) is in place underneath the drain spout on the fryer.

Full Vat: Press the 1 ✔ key and let the oil drain into the oil removal cart. Push any pieces of fried food or other sediment into the drain valve, so they drain out. Computer displays DISPOSING changing to VAT EMPTY?

Press the 1 ✔ key.

⚠ Hot Oil
The oil may be very hot. Avoid splashing oil.

12 Replace filter pan.
Place filter pan with all internal components removed in the fryer cabinet.

⚠ Hot Surfaces

13 Add degreaser and hot water to vat.
Pour KAY® QSR Heavy Duty Degreaser carefully into the vat. Use 2/3 gallon (2.52 liters) of degreaser if you are cleaning a full vat. Use 1/3 gallon (1.26 liters) of degreaser if you are cleaning one side of a split vat. Finish filling the vat with hot water. Solution should be 1 inch above fill line.

Refer to Kay Chemical instructions Fryer Deep Clean Procedure for additional instructions.

⚠ Chemicals
KAY® QSR Heavy Duty Degreaser

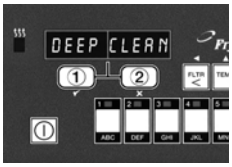
Deep Clean Mode JIB System (continued)

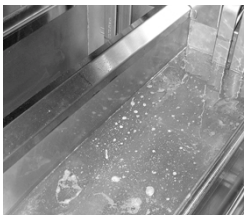
14 **After adding Cleaning Solution**
Computer displays SOLUTION ADDED alternating with YES. Press the 1 ✔ key.

15 **Start Deep Clean**
Computer displays DEEP CLEAN alternating with a countdown timer for one hour. The solution will reach a temperature of 195°F (91°C). The solution should be at a soft, rolling simmer. Complete steps 15 through 18 while the timer is running.

Hot Liquids/Steam
The solution should never come to a rolling boil, or it may boil over. If unit starts to boil over cancel deep clean by pressing and holding the 2x button for three seconds.

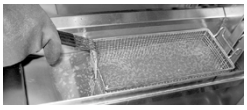
Never leave the fryer unattended during deep clean.





16 **Clean fry baskets.**
Place the fry baskets into the cleaning solution. Have another crew person remove them when clean and take them to the three-compartment-sink. Rinse and dry them thoroughly.

Equipment Alert
Do not place any aluminum parts in the boiling solution. The solid metal basket hangers are made of aluminum.

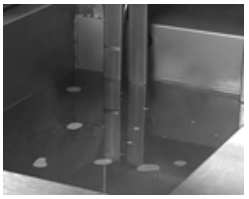


17 **Clean basket support rack.**
Use the goofer stick to remove the basket support rack from the vat. Have another crew person take the rack to the three-compartment-sink, and rinse it thoroughly in hot water. Dry thoroughly.

Hot Surfaces
The basket support rack is very hot.

18 **Scrub inside of vat.**
Scrub the side, front, and back walls of the vat with the Hi-Temp Pad Polder, pad and Kay QSR Fryer Cleanser.

19 **Clean Done**
After one hour, the computer displays CLEAN DONE and sounds an alarm. Press 1 ✔ to silence alarm.



20 **Drain solution from vat.**
Follow Kay Chemical Deep Cleaning Procedure to remove solution.

The computer displays IS SOLUTION REMOVED? alternating with YES. Once the solution is removed press 1 ✔ button.

Hot Liquids/Steam
The solution will be very hot. Avoid splashing.

21 **Scrub inside of vat.**
The computer displays SCRUB VAT COMPLETE? alternating with YES.

Use the Hi-Temp Pad Holder, pad and fryer cleanser to scrub the side, front, back and top of vat. Remove any remaining deposits. Use the Hi-Temp Detail Brush to scrub in between and underneath coils, corners of vats and any other hard-to-reach areas.

Once the vat is scrubbed press the 1 ✔ button.

22 **Draining**
The computer displays DRAINING to drain the small amount of solution from the vat.

Hot Liquids/Steam
The solution will be very hot. Avoid splashing.

23 **Rinse vat with water.**
Rinse the vat thoroughly with warm water (100°F or 38° C). Be sure to have the filter pan inserted to catch rinse water. Repeat with more clean, warm water.

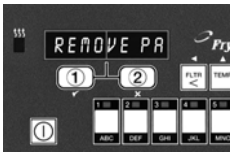
24 **Rinse Complete**
The computer displays RINSE COMPLETE? alternating with YES.

Press the 1 ✔ button when the rinse is complete.

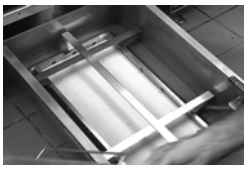
25 **Remove filter pan.**
The computer displays REMOVE PAN.

Remove the filter pan.

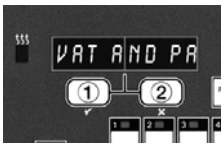
Hot Surfaces



26 **Dry Vat, Clean and Dry Pan**
The computer displays VAT AND PAN DRY? Alternating with YES. Remove and drain the filter pan in accordance with Kay Chemical Deep Cleaning procedure. Wipe the vat down with a clean, sanitized towel. Thoroughly dry the inside of the vat with paper towels. Clean and dry the filter pan. Reassemble it with its components and install a clean filter pad.



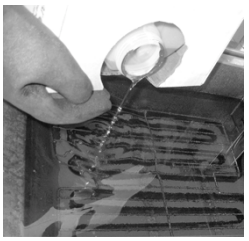
27 **Vat, Pan Dry**
Press 1 ✔ when the vat and pan are dry and ready to return to service.



28 **Fill the vat with oil.**
The computer displays MANUAL FILL VAT alternating with YES.
Fill the vat with the appropriate amount of oil.

Press 1 ✔ when the vat is filled to the bottom oil level line.

Manual Handling



29 **Return to OFF.**
The computer displays OFF.

Deep Clean Mode Bulk System | Quarterly | FR 3 Q2

Why Removes caramelized oil from elements (if electric) and frypot.

Time required 5 minutes to prepare; 15 minutes to prepare; 60 per pot to complete

Time of day This task can be performed one pot at a time. You will be able to serve customers with remaining pots. For 24-hour restaurants: This task can be performed one pot at a time. You will be able to serve customers with remaining pots.

Hazard icons Chemicals, Electricity, Hot Liquids/Steam, Hot Oil, Hot Surfaces, Manual Handling, Moving Parts, Sharp Objects/Surfaces, Slippery Floors

Tools and supplies

Apron, heat-resistant

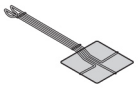
Ecolab Hi-Temp Detail Brush

Bucket, plastic

Bucket, clean and sanitized towels

Bucket, soiled towels

Face shield


Fryer skimmer

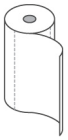
Gloves, neoprene

Goofer stick

KAY® QSR Fryer Cleanser

KAY® QSR Heavy Duty Degreaser

Oil removal cart


Paper towels

Ecolab Hi-Temp Pad Holder and Pad

Procedure *The Deep Cleaning follows procedures developed by Kay Chemical. Their instructions are needed in addition to this PM.*

1 Prepare for Deep Clean and turn fryer off.

Put on neoprene gloves, a heat-resistant apron, and a face shield. You must wear this equipment throughout this procedure.

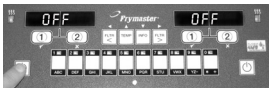
This procedure should be done for only one vat at a time.

Confirm that the fryer filters are in place. Turn at least one exhaust fan on. The fan must stay on for the entire procedure.

Make sure the basket support rack is in place in the vat.

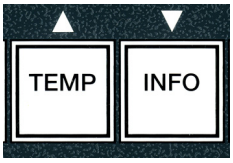
Press the on/off button to turn the fryer off. The display will show "OFF."

Equipment Alert
Avoid accidentally activating the fire extinguishing system by keeping an exhaust fan on and the fryer filters in place during the entire procedure.



2 Enter Deep Clean mode.

DO NOT drain oil to be disposed into the waste tank into a dirty filter pan or one with components removed.
Press and hold the Temp and Info buttons simultaneously until LEVEL 1 is displayed on the computer changing to ENTER CODE.



3 Enter Code.
Enter 1-2-3-4 with the numbered keys

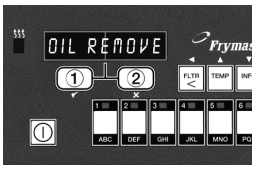
4 Scroll to Deep Clean.
Press the ▼ "Info" button to scroll to DEEP CLEAN MODE.

5 **Press checkmark key.**
Press the 1 ✔ key under the vat to be cleaned.

6 **Confirm Deep Clean.**
The computer display alternates between DEEP CLEAN? and YES NO. Press the 1 ✔ key.

7 **Confirm Oil is Removed.**
Split Pots: Computer displays Deep Clean, alternating with L R. Press the 1 ✔ or 2 ✕ button under the split vat to be cleaned. Computer displays IS OIL REMOVED? alternating with YES NO.

Full Pots: Computer displays IS OIL REMOVED? alternating with YES NO.

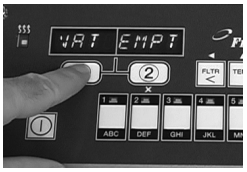


8 **Confirm Pot Status.**
Empty Vat: Press the 1 ✔ key. Computer displays SOLUTION ADDED? alternating with YES.

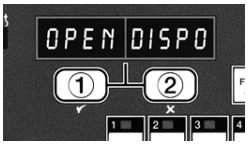
Oil-Filled Vat: Press the 2 ✕ key. Computer displays DRAINING changing to VAT EMPTY? alternating with YES?

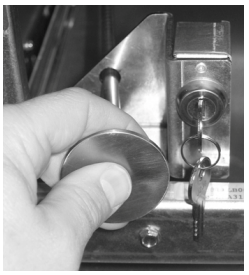
Hot Oil
The oil may be very hot. Avoid splashing oil.

9 **Vat empty.**
Press the 1 ✔ key



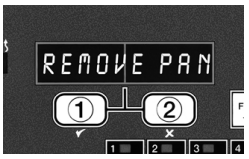
10 **Open dispose valve.**
The computer displays OPEN DISPOSE VALVE. Unlock the valve and pull the dispose valve handle completely forward to start disposal.

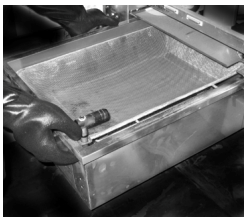




11 **Disposing**
The computer displays DISPOSING for four minutes while the pump is running.

12 **Remove filter pan.**
The computer displays REMOVE PAN.
Remove the filter pan and ensure the pan is empty.
If empty remove crumb basket, hold-down ring, filter pad and screen.



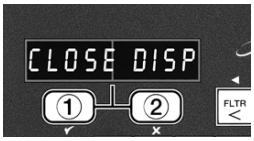


13 **Is pan empty?**
The computer displays IS PAN EMPTY? alternating with YES NO.
Remove the filter pan and ensure the pan is empty.

Empty Pan: Press the 1 ✔ key.

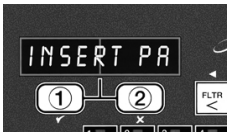
Oil in Pan: Press the 2 ✕ key. The pump runs for an additional four minutes.

14 **Close dispose valve.**
The computer displays CLOSE DISPOSE VALVE. Close the dispose valve by pushing the valve handle completely toward the rear of the fryer until it stops. Lock the handle.



15 **Insert filter pan.**
The computer displays INSERT PAN.
Place filter pan with all internal components removed in the fryer cabinet.

Hot Surfaces



16 **Add degreaser and hot water to vat.**
Pour KAY® QSR Heavy Duty Degreaser carefully into the vat. Use 2/3 gallon (2.52 liters) of degreaser if you are cleaning a full vat. Use 1/3 gallon (1.26 liters) of degreaser if you are cleaning one side of a split vat. Finish filling the vat with hot water. Solution should be 1 inch above fill line.

Refer to Kay Chemical instructions Fryer Deep Clean Procedure for additional instructions.

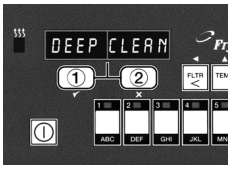
Chemicals
KAY® QSR Heavy Duty Degreaser

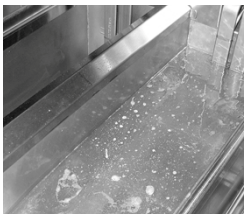
17 **After adding Cleaning Solution**
Computer displays SOLUTION ADDED alternating with YES.
Press the 1 ✔ key.

18 **Start Deep Clean**
Computer displays DEEP CLEAN alternating with a countdown timer for one hour. The solution will reach a temperature of 195°F (91°C). The solution should be at a soft, rolling simmer. Complete steps 19 through 21 while the timer is running.

Hot Liquids/Steam
The solution should never come to a rolling boil, or it may boil over. If unit starts to boil over cancel deep clean by pressing and holding the 2x button for three seconds.

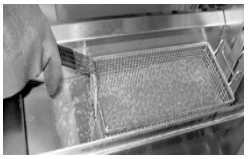
Never leave the fryer unattended during deep clean.





19 **Clean fry baskets.**
Place the fry baskets into the cleaning solution. Have another crew person remove them when clean and take them to the three-compartment-sink. Rinse and dry them thoroughly.

Equipment Alert
Do not place any aluminum parts in the boiling solution. The solid metal basket hangers are made of aluminum.

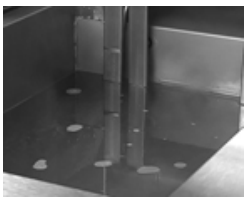


20 **Clean basket support rack.**
Use the goofer stick to remove the basket support rack from the vat. Have another crew person take the rack to the three-compartment-sink, and rinse it thoroughly in hot water. Dry thoroughly.

Hot Surfaces
The basket support rack is very hot.

21 **Scrub inside of vat.**
Scrub the side, front, and back walls of the vat with the Hi-Temp Pad Holder, Pad and Kay QSR Fryer Cleanser to remove any remaining deposits.

22 **Clean Done**
After one hour, the computer displays CLEAN DONE and sounds an alarm. Press 1 ✔ to silence alarm.



23 **Drain solution from vat.**
Follow Kay Chemical Deep Cleaning Procedure to remove solution.

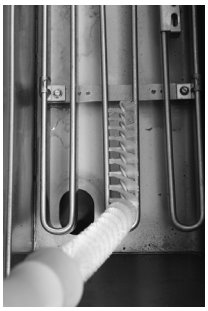
The computer displays IS SOLUTION REMOVED? alternating with YES. Once the solution is removed press 1 ✔ button.

Hot Liquids/Steam
The solution will be very hot. Avoid splashing.

24 **Scrub inside of vat.**
The computer displays SCRUB VAT COMPLETE? alternating with YES.

Use the Hi-Temp Pad Holder, pad and fryer cleanser to scrub the side, front, back and top of vat. Remove any remaining deposits. Use the Hi-Temp Detail Brush to clean between and underneath coils, corners of vats and other hard-to-reach areas.

Once the vat is scrubbed press the 1 ✔ button.



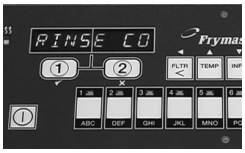
25 **Draining**
The computer displays DRAINING to drain the small amount of solution from the vat.

Hot Liquids/Steam
The solution will be very hot. Avoid splashing.

26 **Rinse vat with water.**
Rinse the vat thoroughly with warm water (100°F or 38° C). Be sure to have the filter pan inserted to catch rinse water. Repeat with more clean, warm water.

27 **Rinse Complete**
The computer displays RINSE COMPLETE? alternating with YES.

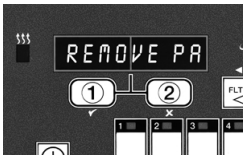
Press the 1 ✔ button when the rinse is complete.



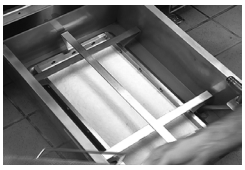
28 **Remove filter pan.**
The computer displays REMOVE PAN.

Remove the filter pan.

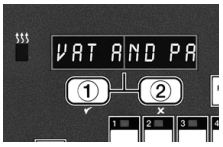
Hot Surfaces



29 **Dry Vat, Clean and Dry Pan**
The computer displays VAT AND PAN DRY? Alternating with YES. Remove and drain the filter pan in accordance with Kay Chemical Deep Cleaning procedure. Wipe the vat down with a clean, sanitized towel. Thoroughly dry the inside of the vat with paper towels. Clean and dry the filter pan. Reassemble it with its components and install a clean filter pad.

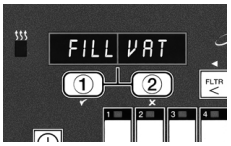


30 **Vat, Pan Dry**
Press 1 ✔ when the vat and pan are dry and ready to return to service.



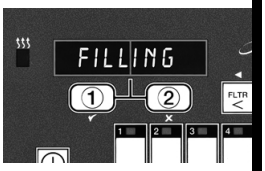
31 **Fill the vat with oil.**
The computer displays FILL VAT FROM BULK? alternating with YES.
Fill the vat with the appropriate amount of oil.

Press 1 ✔ when the vat is filled to the bottom oil level line.

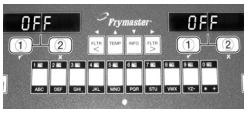


32 **Fill the vat with oil.**
The computer displays PRESS AND HOLD YES TO FILL alternating with YES. Press and hold the 1 ✔ button to fill the vat. Release the button when the vat is filled to the bottom oil level line.

33 **Filling**
The computer displays FILLING while the vat is filling with oil. If the button is released the computer displays CONTINUE FILLING? alternating with YES NO. Press and hold the 1 ✔ button to continue filling.



34 **Return to OFF.**
The computer displays OFF.



Verify high-limit controls | Quarterly | FR 3 Q3

Why
If the high-limit is not working properly it could lead to a serious equipment failure and unsafe conditions. Never operate a fryer that has a malfunctioning high-limit. Conduct this test when the fryer will not be needed for one hour and the oil is due to be changed. Discard the oil after completing this test.

Time required
45 minute fryer warm up time
25 minutes per pot
1 hour for oil to cool down before disposal.

Time of day
After closing. Conduct this test when the cooking oil is due to be changed.
For 24-hour restaurants: during low-volume periods when oil is scheduled to be changed

Hazard icons
Hot Liquids/Steam Hot Oil Hot Surfaces

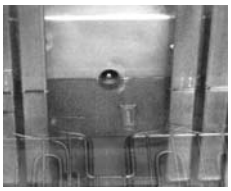
Tools and supplies

Oil removal cart

Neoprene Gloves

Procedure

1 Prepare for tests.
Confirm that the oil in the fryer is scheduled to be changed. The oil must be discarded at the end of the procedure.



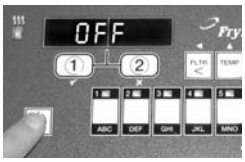
Check the oil level in the fryer. It should be at the upper "Oil Level" line.

Check the temperature of the oil by pressing the TEMP button. The oil temperature should be above 180°F (82°C).

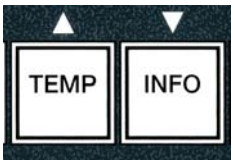
Confirm that the hood grease filters are in place, and turn the exhaust fans on. The fans must stay on for the entire procedure. During this procedure, the oil in the fryer is heated to very high temperatures. The oil may smoke slightly, and it will be extremely hot.

2 Turn Computer Off
Press off buttons.

Hot Surfaces



3 Enter Programming Mode
Press and hold the Temp and Info buttons simultaneously until LEVEL 1 is displayed on the computer changing to ENTER CODE.



4 Enter Code
Enter 1-2-3-4 with the numbered keys.

5 Computer display changes
Computer displays Level 1 Program.

6 Scroll through choices
Press the ▼ "Info" button to scroll to High Limit Test.

7 Confirm choice
Press the 1 ✔ key.

Verify high-limit controls (continued)

8 **Confirm test choice**
The computer displays HI LIMIT? alternating with YES NO.

9 **Press key**
Press the ✔ key.

10 **Press and hold check key.**
The computer displays PRESS AND HOLD CHECK.

11 **Press and hold key**
Press and hold ✔ key of the vat being tested. The computer displays the vat temperature during the test.

12 **Vat heats**
The computer displays HOT HI-1, when the vat reaches 410°F±10°F (210°C±12°C).In computers used in the European Union (those with the CE mark), the temperature is 395°F (202°C).

13 **High limit opens**
The computer displays HELP alternating with HI-2, when the high limit opens between 423°to 447°F (217°C to 231°C).

14 **High limit fails**
If the high limit fails to open, the computer will display HIGH LIMIT FAILURE alternating with DISCONNECT POWER. If this occurs, disconnect power immediately and call for service.

15 **Release key**
Release the 1 ✔ button.

16 **Once oil cools exit to off.**
When the vat cools below 400°F (204°C), press the 2 ✖ twice to exit and return to OFF.

17 **Dispose of oil.**
Dispose of the oil after a high limit test. Use the MSDU (oil removal cart) for non-RTI stores.
If using a bulk oil system follow the proper procedures to dispose of oil.

18 **Verify high-limit controls for all remaining fryers.**
Repeat steps 3-18 for all remaining fryers.

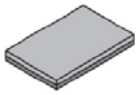
Replace filter O-rings

Why	To keep the fryer's filter pump in working order	
Time required	2 minutes to prepare	5 minutes to complete
Time of day	At open; the fryer must be cool	For 24-hour restaurants: During a low-volume period when the fryer can be turned off
Hazard icons	Hot Oil, Hot Surfaces	

Tools and supplies

O-rings for the filter pump

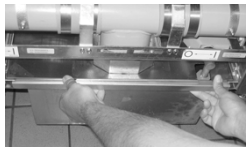
Flat tip screwdriver



No-scratch pad

Procedure

1 Prepare fryer for procedure.
Check to make sure the fryer is cool. This procedure should be done only when the fryer is cool and the filter pan is empty.



2 Remove filter pan.
Pull the filter pan out of the cabinet.

3 Replace O-ring.
Remove the O-ring from the pan nozzle. Replace the O-ring with a new O-ring. O-rings can be purchased from your local authorized servicer.

Equipment Alert
Use only the manufacturer's replacement O-ring. These rings are manufactured specifically for use with hot cooking oils. Generic O-rings cannot be used for this purpose.

4 Clean pickup tubes.
Clean the male and female pickup tubes with a no-scratch pad.

5 Reinstall filter pan.
Reinstall the pan into the fryer cabinet.

Annual Inspection (electric fryers only) | Annually | FR 3 A1-T

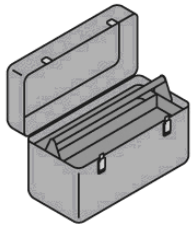
Why Frymaster recommends that a Factory Authorized Service Technician inspect this appliance at least annually. This will help ensure the equipment is in safe working order and operating at peak performance.

Time required N/A 1 hour per fryer to complete inspection

Time of day The inspection should be scheduled by the store to ensure business is not interrupted and to give the servicer adequate access to the equipment.

Hazard icons Chemicals, Electricity, Hot Oil, Hot Surfaces, Manual Handling, Moving Parts, Sharp Objects/Surfaces, Slippery Floors

Tools and supplies



Tools supplied by technician

Procedure

QUALIFIED TECHNICIANS ONLY

1 Cabinet inspection
Inspect the cabinet, inside and out, front and rear, for excessive oil buildup.

Hot Surfaces

2 Element inspection
Verify that heating elements are in good condition with no carbon/caramelized oil build up. Inspect the elements for signs of extensive dry firing.

3 Tilt inspection
Verify that the tilt mechanism is working properly when lifting and lowering elements and that the element wires are not binding and/or chafing.

4 Check fryer recovery time.
Choose a vat on the fryer. Check the fryer's most recent recovery time for that vat, using the procedure in FR3 M1. The most recent recovery time should be less than 1:40 (one minute, forty seconds).

If the fryer's recovery time is less than 1:40 (one minute, forty seconds). The procedure is complete for this vat. Go to step 6

5 Adjust fryer, if necessary.
If the fryer's recovery time is not acceptable, check the following items on the fryer. If you find any problems, correct them as described.

For electric fryers only, confirm that the large power plug is properly plugged in. Adjust as necessary. Continue to step 6.

6 Amp-draw check
Verify the heating element amp-draw is within the allowed range as indicated on the appliance's rating plate.

Annual Inspection (electric fryers only) (continued)

7 Probe check
Verify that the temperature and high-limit probes are properly connected, tightened and functioning properly, and that mounting hardware and probe guards are present and properly installed.

8 Electrical component inspection
Verify that component box and contactor box components (i.e. computer/controller, relays, interface boards, transformers, contactors, etc.) are in good condition and free from oil build up or other debris.

9 Wiring connection inspection
Verify that component box and contactor box wiring connections are tight and that wiring is in good condition.

10 Safety device check
Verify that all safety features (i.e. contactor shields, drain safety switches, reset switches, etc.) are present and functioning properly.

11 Frypot examination
Verify that the frypot is in good condition and free of leaks and that the frypot insulation is in serviceable condition.

12 Wiring harness inspection
Verify that all wiring harnesses and connections are tight and in good condition.

13 Oil line inspection
Inspect all oil-return and drain lines for leaks and verify that all connections are tight.

Annual Inspection (gas fryers only) | Annually | FR 3 A2-T

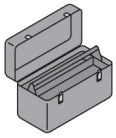
Why Frymaster recommends that a Factory Authorized Service Technician inspect this appliance at least annually. This will help ensure the equipment is in safe working order and operating at peak performance.

Time required 1.5 hours to complete

Time of day The inspection should be scheduled by the store to ensure business is not interrupted and to give the servicer adequate access to the equipment.

Hazard icons Chemicals, Electricity, Hot Oil, Hot Surfaces, Manual Handling, Moving Parts, Sharp Objects/Surfaces, Slippery Floors

Tools and supplies



Tools supplied by technician

Procedure

QUALIFIED TECHNICIANS ONLY

1 Cabinet inspection
Inspect the cabinet, inside and out, front and rear, for excessive oil buildup.

Hot Surfaces

2 Check regulated gas pressure.
Contact the local gas company or a service agency to check the gas pressure out of the fryer's gas regulator.

For natural gas, the pressure must be 3.0 in. W.C. (76 mm W.C.) For propane gas, the pressure must be 8.25 in. W.C. (210 mm W.C.)

If the pressure does not meet these standards, ask the service agency or gas company to adjust the pressure to meet the standard.

3 Probe check
Verify that the temperature and high-limit probes are properly connected, tightened and functioning properly, and that mounting hardware and probe guards are present and properly installed.

4 Clean and Replace gas valve vent tube.
Clean and replace the gas valve vent tube. Follow the cleaning procedure in the service manual.

5 Clean combustion air blower.
Clean the combustion air blowers. Follow the cleaning procedure in the service manual.

6 Check fryer recovery time.
Choose a vat on the fryer. Check the fryer's most recent recovery time for that vat, using the procedure in FR3 M1. The most recent recovery time should be less than 2:25 (two minutes, twenty-five seconds).

If the fryer's recovery time is less than 2:25 (two minutes, twenty-five seconds) the procedure is complete for this vat. Go to step 9.

7 Check combustion.
If the fryer's recovery time is less than 2:25 (two minutes, twenty-five seconds) skip this step.

Connect the multimeter in series with the white flame sensor wire on the igniter. Allow the burner to operate for at least one minute after the melt cycle is completed. After 1 minute, the reading on the multimeter should between 2.5 and 3.5 microamps. Any other reading is not acceptable.

After 90 seconds of continuous operation, check the color of the burner. The burner should glow bright orange-red. Use the Burner Color Comparison Chart inside the door of the fryer to identify the correct color. A blue flame or dark spots on the burner face are not acceptable.

8 **Adjust combustion air blower, if necessary.**
If the fryer's recovery time is less than 2:25 (two minutes, twenty-five seconds) skip this step.

If either the multimeter reading or the burner color is not acceptable, adjust the combustion air blower intake plate.

Loosen the locking nuts on the intake plate with a small adjustable wrench. Open or close the plate to adjust the airflow while watching the multimeter reading and the color of the burner. A blue flame usually means the burner isn't receiving enough air. Dark spots on the burner usually mean the burner is receiving too much air.

When the microamp reading is in the acceptable range and the burner color is bright orange-red, hold the blower intake plate in place. Then tighten the blower intake plate locking nuts.

9 **Safety device check**
Verify that all safety features (i.e. drain safety switches, reset switches, etc.) are present and functioning properly.

10 **Frypot examination**
Verify that the frypot is in good condition and free of leaks and that the frypot insulation is in serviceable condition.

11 **Wiring harness inspection**
Verify that all wiring harnesses and connections are tight and in good condition.

12 **Oil line inspection**
Inspect all oil-return and drain lines for leaks and verify that all connections are tight.

13 **Calibrate remaining fryers.**
Repeat steps 2 through 12 for each remaining vat and fryer.